

**ABSTRACT**

Peptides which mimic a loop on the  $\gamma$ -chain that either interact with a cytokine or a  $\gamma$ -chain partner receptor chain of a heterodimeric cytokine receptor are disclosed. The  
5 peptides consist of 5-25 amino acids and inhibit signal transduction mediated by cytokine:receptor binding of cytokines that bind to receptors that comprise a  $\gamma$ -chain. Pharmaceutical compositions that comprise the peptides are disclosed. Methods of inhibiting signal transduction mediated by cytokine:receptor  
10 binding of cytokines that bind to receptors that comprise a  $\gamma$ -chain, methods of inhibiting cytokine mediated cell growth, proliferation, function or activity, methods of treating patients suffering from a disease disorder or condition characterized by cytokine mediated cell growth, proliferation,  
15 function or activity and methods of preventing a condition characterized by cytokine mediated cell growth, proliferation, function or activity are disclosed.